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FACIAL PARALYSIS

TREATED BY A NEW METHOD.

BY

WILLIAM DETMOLD, M. D.

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FACIAL PARALYSIS TREATED BY A NEW METHOD.[1]

EVERY practitioner, I presume, is familiar with facial paralysis. I do not now allude to that paralysis which follows an apoplectic attack, but to that local affection—paralysis of one side of the face—which comes on suddenly, at times, somewhat analogous to infantile paralysis of the lower extremities, in consequence of a draught of cold air, at other times without any appreciable cause, and which generally yields to various kinds of treatment; and, in most cases, probably would get well without any treatment in from four to six weeks. But occasionally we encounter cases which assume a chronic character, and, defying the ordinary methods of treatment, lead to a permanent distortion of the face.

I reported, some years ago, to this Academy, some cases of facial paralysis in which I successfully performed myotomy. I only reported these cases orally, and I believe they never have been put on record; but, as they form an interesting contrast to the case which is the subject of this paper, I will briefly record them here:

CASE I.—Miss H., about twenty-one years of age, had, in early infancy, paralysis of the face, which resisted every effort of treatment; for, as the family were in very affluent circumstances, it is to be presumed that the case had not been neglected. When I was consulted, I found, on one side of the

[1] Read before the New York Academy of Medicine, March 20, 1873.

neck and below the ear, a number of deep, adhering scars from scrofulous ulcerations, which possibly may involve some branches of the facial nerve. Whether they were the cause of the paralysis I do not know, for, as the mother of the young lady had died years before, I could not obtain a satisfactory history of the case. The prominent feature of the affection was a strong contraction of the muscles of the other side, which drew the mouth considerably over to that side. As I had reason to suppose that the ordinary methods of treatment had been exhausted, evidently without effect, I did not deem it worth while to go over the same ground again; but I determined at once to divide the contracted muscles. I made, on the inside of the cheek, a semicircular incision through the mucous membrane, dividing every thing, till I felt that I had reached the cutis. The incision commenced near the ala of the nose, and was carried around the fibres of the orbicularis oris to near the middle of the lower lip, thus dividing the insertion of all the muscles that attach themselves to the orbicularis on that side. There was some bleeding, which, however, yielded to pressure, and I had the satisfaction of relieving the deformity almost entirely—at any rate so far that what remained appeared more like a trick or bad habit than a deformity. When the face was at rest, nothing was apparent; only when the muscles were in action, especially in laughing, there was still a contraction visible, and even that, I think, might have been cured by repeating the operation, but the young lady was so well satisfied with the result obtained that she would not consent to a second operation.

Case II.—Although this case does not strictly come under the name of facial paralysis, yet, as the treatment was analogous, its brief report here may not be out of place:

Sergeant B., during the Mexican War, received, at the battle of Cerro Gordo, a gunshot-wound, the ball entering the mouth, carrying away a portion of the hard palate, breaking the upper part of the ramus of the lower jaw, and making its exit below and behind the lobe of the ear, probably dividing the facial nerve. I saw him several years afterward. There was considerable deformity, besides anchylosis of the lower jaw, but the object of his consulting me was the eye of that

side. The orbicularis palpebrarum seemed entirely paralyzed; the upper lid was forcibly drawn up, so that the eye could not even be partially protected by the forcible rolling upward of the ball as we see it in the ordinary cases of paralysis, where the lids cannot be completely closed. The cornea, in consequence of the constant exposure, had become vascular and opaque, and the constant irritation from that source induced the man to apply to me, upon the advice of his physician, for the purpose of having the eyeball removed. Before proceeding, however, to that extremity, I determined to give him the benefit of myotomy. I made a semilunar incision below the supra-orbital ridge, and divided the levator-palpebræ superioris before its fan-like insertion into the tarsus. The lid dropped immediately, and, even before the external wound was healed, followed the motion of the lid of the other eye. In a few months the cornea lost its vascularity and opacity, and there was scarcely a trace of the previous paralysis of the lid remaining.

In both the foregoing cases the prominent feature was contraction of the non-paralyzed muscles. I therefore tried, by dividing them, to put them more nearly on a par with their paralyzed antagonists, and in both cases success justified the attempt.

The case which is the proper subject of this paper is of an entirely different character, there being hardly any muscular contraction, and therefore an entirely different mode of treatment became necessary. That is the reason why I have placed these cases here in juxtaposition.

Miss N., now about eighteen years old, was seized, when about two years old, with one-sided paralysis of the face. A number of physicians have attended the case from time to time and in succession, but without result. She tells me that I myself have been consulted years ago in the case, but that I have not done more or better than the rest. During a recent visit to Europe the father of the young lady was advised to apply to me, and thus I was again consulted. The patient now presents a very marked case of paralysis, the main feature of which is not contraction of the other side, but, in consequence of complete inaction of the zygomatic muscles

and the levator anguli oris, a heavy drooping and hanging down of the angle of the mouth. Knowing that the ordinary methods of treatment, such as stimulating frictions, hot douches, endermatic use of strychnia, electricity, etc., etc., had been tried conscientiously and without effect, I determined to try what mechanical means would do. I bent a wire into a hook, which I put into the drooping corner of the mouth, and, drawing it up, bent the wire over and behind the ear. I recommended the patient to keep it on overnight, trusting that, by entirely relaxing the paralyzed muscles, and supporting the dragging weight, I might somewhat relieve the defect. She reported herself next morning, full of joy. The result exceeded my most sanguine expectations. After one night's use of the wire, the drooping of the mouth had diminished in a very marked degree, but the wire had cut into the corner of the mouth and made it sore. I therefore ordered an instrument to be made of silver by Otto & Reynders, which should obviate the difficulty. It consists of a flat hook, with the edges turned out, and terminating in a wire hook, which goes over the ear. She wears this instrument steadily at night, only omitting it when the corner of the mouth gets sore; and she is steadily improving.

It then occurred to me that I might make this instrument still more effective if I could combine with it a permanent and continuous galvanic current through the paralyzed parts by having it made of two different metals, thus forming as it were a single cell of a galvanic battery. With this view I had the flat hook which enters the corner of the mouth made of platina, and the wire terminating in a plate behind the ear, made of zinc. Mr. Charles T. Chester, who was kind enough to make this instrument, gives in a note to me the following account: "I charged the zinc plate with salt and water. I have no exact instruments to measure quantity of current passing, but it holds my galvanometer at ten degrees deflection through the resistance of nine hundred British Association units. A steady current of appreciable power constantly flows through the part when the velvet (which covers the zinc plate) is moistened."

I am fully aware that the mode of application is some-

what opposed to the generally-accepted theory that the galvanic current which runs in the direction from the hard metal to the softer should correspond with the direction of the current of the nerve-fluid, that is, from the centre to the periphery. But, on the one hand, I do not consider the force of this theory sufficiently demonstrated, and, on the other hand, I did not want to put the softer and easily-oxidized metal into the mouth. Consequently, when my instrument is applied, the galvanic current, instead of running with the nerve-current, runs opposite to it, but, whatever the direction is, the galvanic current runs exactly through the affected and paralyzed parts.

I must not omit here to remark that during the time the galvanic instrument was being made, I had given the silver instrument as a model, and that consequently for about a week no instrument was worn by the patient. At the end of the week a considerable relapse of the paralysis was noticeable, showing the necessity of a long-continued use of the instrument.

The galvanic instrument has now been worn for a few weeks, and the patient is steadily improving; but, as the recovery had already far progressed and was steadily progressing, before galvanism was brought into coöperation, I am unable to say what share in the benefit, or whether any, is due to the galvanic current, to which, on the whole, I do not attach as much importance as to the mechanical support. The application, under the circumstances, I believe and claim as new.

I have thus briefly put representative cases of two classes of facial paralysis together: one where the contraction of the non-paralyzed muscles forms the prominent feature, and the other where the inaction of the paralyzed muscles is prominent; and I have shown two entirely different methods of treatment of the two classes; but I have no doubt that many cases may occur where both methods of treatment might be advantageously combined.

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